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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,765	12/13/2001	William J. Gamble	83566AEK	2538

7590

03/20/2003

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EXAMINER

HON, SOW FUN

ART UNIT

PAPER NUMBER

1772

3

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/022,765

Applicant(s)

GAMBLE ET AL.

Examiner

Sow-Fun Hon.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In claim 16, it is unclear how the two compounds differ by the value "n".

Do the two compounds have different n numbers? If so, the claim limitation should be rewritten as "at least two of the compounds of Formula (I) have different values of "n".

- b. In claim 17, it is unclear how the values for n for two of the compounds include values of 1 and 2, since it suggests that the compounds are different but are present as monomers and oligomers, which then leads to the question as to how they are different in light of claim 16 from which claim 17 depends.

- c. In claim 18, it is unclear what is meant by "the values for n for the more than one compounds is predominantly 1 and 2". Does it mean that n can be greater than 2? Is n an integer?

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-24, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (US 6,211,358) in view of Sand et al. (US 5,104,450).

Honda et al. teaches the preparation of a triacyl cellulose (triacetate) film from a dope with cellulose triacetate having a substitution degree of 2.78, and a triphenyl phosphate as a plasticizer (column 23, lines 40-68). Because Honda et al. teaches that the 120 micron ( $\mu\text{m}$ ) thick film (web) is dried via annealing with a step function of 50 °C, 90 °C, 120 °C and 140 °C (column 24, lines 1-10), it is the examiner's position that the dried film is isotropic due to the annealing, having little birefringence such that the retardation of a film only 80 micron would be less than 5 nm.

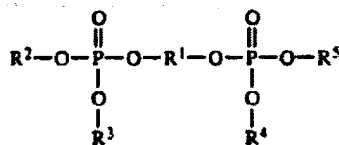
Because Honda et al. teaches that the polymerization degree of the triacyl cellulose (acylate) is from 200 to 700 (column 4, lines 10-45), it is the examiner's position that the weight average molecular weight limitation of 150,000 to 250,000 limitation is met.

Honda et al. teaches that a plasticizer is added to the triacyl cellulose dope to raise the mechanical strength and to give water resistivity, and that an antioxidant is added to give resistivity to heat and water vapor (moisture) for an optical device containing a liquid crystal imaging element (liquid crystal image displaying equipment). A preferred plasticizer is triphenyl phosphate in the amount of 5 to 30 % by weight (column 11, lines 30-68).

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Honda et al. teaches the addition of an antioxidant for resistivity to heat and water vapor in the amount of 1 percent, but fails to teach that the antioxidant is an aromatic polyol-bridged polyphosphate compound.

Sand et al. teaches a triacetyl cellulose film (cellulose triacetate) (column 2, lines 15-55) with a degree of acetylation per cellulose unit (acetyl DS per AGU) of about 2.1 to 2.9 (column 3, lines 1-10). Triphenyl phosphate is added as a useful plasticizer (column 6, lines 55-68). Sand et al. teaches that the aromatic polyol-bridged polyphosphate compound (arylene-bis(diaryl phosphate)) has lower volatility (column 8, lines 50-68) and acts as a better anti-oxidant (better flame retarder) (column 16, lines 35-65). Examples given of the aromatic polyol-bridged polyphosphate compounds are bisphenol A bis(diphenyl phosphate) (column 11, lines 40-60) and resorcinol is used as a bridging diol for the diphenyl phosphate (columns 9-10, lines 30-65). The general formula for the aromatic polyol-bridged polyphosphate compound is shown (columns 3-4, lines 1-70):



Because Sand et al. teaches the use of at least one aromatic polyol-bridged polyphosphate compound (column 1, lines 5-15), the suggestion is there to use more than one aromatic polyol-bridged polyphosphate compound.

Although the relevant peak as determined in the mass spectrum of the aromatic polyol-bridged polyphosphate compound is given (column 11, lines 40-60), the distribution of peaks in the mass spectrum of the preparation is not given, and thus it is

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unclear whether the aromatic polyol-bridged polyphosphate compounds of Sand et al. are monomeric, oligomeric or mixtures thereof. In the absence of clear comparative data, the examiner has taken the position that there could be mixtures of monomers and oligomers of different n values present in the preparation.

Because water vapor transmission conditions are at higher temperatures, and Sand et al. teaches that the aromatic polyol-bridged polyphosphate compound has lower volatility and behave as anti-oxidant plasticizers, and Honda et al. teaches that an antioxidant is added to the triacyl cellulose film to give resistivity to heat and water vapor (moisture) for an optical device containing a liquid crystal imaging element, it would have been obvious to one of ordinary skill in the art to have added the aromatic polyol-bridged polyphosphate compound of Sand et al. as the antioxidant in the invention of Honda et al. in order to obtain a triacyl cellulose film with the desired low rate of water vapor transmission (high resistivity) for an optical device containing a liquid crystal imaging element.

5. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. in view of Sand et al. as applied to claims 1-24, 28-29 above, and further in view of Perregaux (US 4,217,160).

Honda et al. teaches the use of the triacyl cellulose film in an optical device containing a liquid crystal imaging element, but fails to teach its use as part of a laminate in a polarizer element.

Perregaux teaches that commercial laminate (sandwich) polarizers in liquid crystal imaging elements (cells) have about 80 micron thick cellulose triacetate films

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(support foils) on both sides of the polarization layer (foil), and require low water vapor transmission rates (high stability in the heat and moisture) (column 1, lines 30-60).

Because Perregaux teaches that the commercial polarizer element in liquid crystal imaging elements have cellulose triacetate films on both sides of the polarization layer which requires low water vapor transmission rates, it would have been obvious to one of ordinary skill in the art to have used the liquid crystal imaging element cellulose triacetate film of Honda et al. in the form of a component of a laminate polarizing element.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

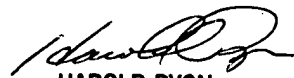
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH

Sow-Fun Hon

03/12/03



HAROLD PYON

SUPERVISORY PATENT EXAMINER

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3/17/03